



U. S. Department of Agriculture
Forest Service
Southeastern Area
State & Private Forestry

FOREST PEST MANAGEMENT

Report # 81-3-9

Issued: 6/17/81

AERIAL DETECTION SURVEY OF FOREST INSECT AND DISEASE ACTIVITY, FEDERAL, STATE AND PRIVATE LANDS, KENTUCKY

LAND OWNERSHIP OR SURVEY AREA: Federal, State & Private Lands

STATE: Kentucky - Counties; Lee, Estill, Powell, Menifee, Breathitt, Wolfe

AREA WITHIN SURVEY BOUNDARY: 560,622 acres

DATE: June 2-5, 1981

PERCENT COVERAGE: 100%

AIRCRAFT: Cessna 182

CREW: Richard Dorsett - Kentucky Division of Forestry; Trudy Brandau,
John Ghent, and William Carothers - USDA Forest Service

REPORT PREPARED BY: William Carothers

SURVEY OBJECTIVES

To observe and delineate areas of hardwood defoliation within the survey boundary.

INTRODUCTION

For the past several years white oak trees have been defoliated throughout Kentucky. Information received from Richard Dorsett, Forest Pest Specialist Kentucky Division of Forestry, indicated that defoliation of white oaks was occurring again this year. A cooperative aerial detection survey was conducted to delineate areas of defoliation. Ground checks of defoliated areas were conducted to collect specimens and observe the damage.

SURVEY RESULTS

Defoliated white oaks were observed throughout most of the survey area. The heaviest concentration of defoliation was located in the northern half of the survey area (refer to map). Since only white oaks were defoliated, the damage appeared as single trees or groups of trees, but within a defined boundary. Defoliation was subjectively categorized as light, moderate or heavy, depending on the appearance of the trees. Table I illustrates the acres of defoliated trees in each category.

Ground checks of selected areas resulted in the collection of larvae and pupae of the causal insect. The insect has tentatively been identified as Phoberia atomaris by entomologists at the University of Kentucky. Information obtained by Richard Dorsett indicates that brachonid parasites, a fungus Nomuraea rileyi and a virus are acting as natural control agents in reducing population levels of P. atomaris.

In addition to the defoliation caused by the Phoberia caterpillars, pine defoliation caused by the Virginia pine sawfly, (Neodiprion pratti pratti) and general hardwood defoliation caused by oak leafroller (Archips semiferanus) and oak leaftier (Croesia semipurpurana) were also observed (refer to map). Pine defoliation was scattered over approximately 21,000 acres and the general hardwood defoliation amounted to approximately 20,650 acres.

The USDA Forest Service will continue to work cooperatively with the Kentucky Division of Forestry in following the development of these infestations.

For further information, contact:

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**Cooperative Aerial Detection
Survey**

Kentucky Division of Forestry

USDA Forest Service

June 2-5 1981


White Oak Defoliation

H- Heavy

M- Moderate

L- Light

 - Virginia Pine Sawfly Defoliation

 - Leafroller and Leaf tier Defoliation

